Test Report

Aggregate Impact Value

Project Name	Improvements to roads and drains at Kogilu Layout at Ward No.05.
Client	Road Infrastructure, Project Division Yalahanka
Job No	MCTPL/BBMP/Project YNK/PMC/2017-2018/QR/04
Mix Type	Wet Mix Macadam
Contractor	M/s KRIDL
Material	Coarse Aggregate
Test Method	IS : 2386 (Part - 4) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	At Site
Sample No	1
Date	19-May-2018

Sl. No.	Determination	Unit	Trails	
1	Weight of empty cylinder, w1	gm	960	960
2	Weight of container filled with Aggregate, w2	gm	1308	1307
3	Weight of the Aggregate before compaction, (w2 - w1) = w3	gm	348	347
4	Weight of the sample passing through 2.36 mm IS sieves after Impact, w4	gm	84	82
5	Weight of the sample retained on 2.36 mm IS sieve after Impact, w5	gm	264	265
6	Aggregate Impact Value (w4 / w3)x100	%	24.14	23.63
7	Specified Limit	%	30	

Results: Average Aggregate Impact Value: **23.89** %

Note:

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For Mecadez Core Technologies Private Limited

Authorised Signature

Test Report
Aggregate Particle Shape

Project Name	Improvements to roads and drains at Kogilu Layout at Ward No.05.
Client	Road Infrastructure, Project Division Yalahanka
Job No	MCTPL/BBMP/Project YNK/PMC/2017-2018/QR/04
Mix Type	Wet Mix Macadam
Contractor	M/s KRIDL
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	At site
Material	Coarse Aggregates
Sample No	1
Date	19-May-2018

I.S. Sieves Size		Weight of Retained Sample on Each Sieve (minimum 200 Pieces) (gm)	Flakiness Index		Elongation Index	
Passing through IS Sieves (mm)	Retained on IS Sieves (mm)		Thickness Gauge	Weight of Aggregates in each fraction passing on thickness gauges (gm)	Length Gauge	Weight of Aggregates in Fraction retained on length gauges (gm)
63	50	0	33.9	0	-	0
50	40	0	27	0	81	0
40	25	25	19.5	0	58.5	0
31.5	25	35	16.95	0	-	0
25	20	1557	13.5	237	40.5	255
20	16	1446	10.8	125	32.4	152
16	12.5	954	8.55	149	25.6	156
12.5	10	470	6.75	72	20.2	78
10	6.3	232	4.89	54	14.7	61
	SW	4719	SWf	637	SWe	702

Flakiness Index 13.50 %
Elongation Index 14.88 %
Combined Flakiness and Elongation Indices : 28.37 %

Comments: Maximum allowable Combined Flakiness and Elongation Indices for WMM is 35%

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Test Report
Aggregate Particle Shape

Project Name	Improvements to roads and drains at Kogilu Layout at Ward No.05.
Client	Road Infrastructure, Project Division Yalahanka
Job No	MCTPL/BBMP/Project YNK/PMC/2017-2018/QR/04
Mix Type	Wet Mix Macadam
Contractor	M/s KRIDL
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Condition	At site
Material	Coarse Aggregates
Sample No	2
Date	20-May-2018

I.S. Sieves Size		Weight of Retained Sample on Each Sieve (minimum 200 Pieces) (gm)	Flakiness Index		Elongation Index	
Passing through IS Sieves (mm)	Retained on IS Sieves (mm)		Thickness Gauge	Weight of Aggregates in each fraction passing on thickness gauges (gm)	Length Gauge	Weight of Aggregates in Fraction retained on length gauges (gm)
63	50	0	33.9	0	-	0
50	40	0	27	0	81	0
40	25	27	19.5	0	58.5	0
31.5	25	37	16.95	0	-	0
25	20	1567	13.5	247	40.5	265
20	16	1430	10.8	109	32.4	136
16	12.5	964	8.55	159	25.6	166
12.5	10	480	6.75	82	20.2	88
10	6.3	242	4.89	64	14.7	71
	SW	4747	SWf	661	SWe	726

Flakiness Index 13.92 %

Elongation Index 15.29 %

Combined Flakiness and Elongation Indices : 29.22 %

Comments: Maximum allowable Combined Flakiness and Elongation Indices for WMM is 35%

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Test Report
Aggregate Gradation

Project Name	Improvements to roads and drains at Kogilu Layout at Ward No.05.
Client	Road Infrastructure, Project Division Yalahanka
Job No	MCTPL/BBMP/Project YNK/PMC/2017-2018/QR/04
Mix Type	Wet Mix Macadam
Contractor	M/s KRIDL
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Wet Mix Plant
Material	Coarse Aggregates
Sample No	1
Date	18-May-2018

Weight of Sample: 4000 gms

Sl.No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	53	0	0	0	100	100	Gradation satisfies the MORT&H Specification for Wet Mix macadam
2	45	105	2.63	2.63	97.37	95-100	
3	22.4	1102	27.55	30.18	69.82	60-80	
4	11.2	803	20.08	50.26	49.74	40-60	
5	4.75	710	17.75	68.01	31.99	25-40	
6	2.36	405	10.13	78.14	21.86	15-30	
7	0.06	302	7.55	85.69	14.31	(8-22)	
8	0.075	441	11.03	96.72	3.28	0-5	

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Test Report
Aggregate Gradation

Project Name	Improvements to roads and drains at Kogilu Layout at Ward No.05.
Client	Road Infrastructure, Project Division Yalahanka
Lab No	MCTPL/BBMP/Project YNK/PMC/2017-2018/QR/04
Mix Type	Wet Mix Macadam
Contractor	M/s KRIDL
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Wet Mix Plant
Material	Coarse Aggregates
Sample No	2
Date	19-May-2018

Weight of Sample: 4000 gms

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	53	0	0	0	100	100	Gradation satisfies the MORT&H Specification for Wet Mix macadam
2	45	105.5	2.64	2.64	97.36	95-100	
3	22.4	1102.5	27.56	30.2	69.8	60-80	
4	11.2	803.5	20.09	50.29	49.71	40-60	
5	4.75	710.5	17.76	68.05	31.95	25-40	
6	2.36	405.5	10.14	78.19	21.81	15-30	
7	0.06	302.5	7.56	85.75	14.25	(8-22)	
8	0.075	441.5	11.04	96.79	3.21	0-5	

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Test Report
Aggregate Gradation

Project Name	Improvements to roads and drains at Kogilu Layout at Ward No.05.
Client	Road Infrastructure, Project Division Yalahanka
Job No	MCTPL/BBMP/Project YNK/PMC/2017-2018/QR/04
Mix Type	Wet Mix Macadam
Contractor	M/s KRIDL
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Wet Mix Plant
Material	Coarse Aggregates
Sample No	3
Date	18-May-2018

Weight of Sample: 4000 gms

Sl No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	53	0	0	0	100	100	Gradation satisfies the MORT&H Specification for Wet Mix macadam
2	45	107	2.68	2.68	97.32	95-100	
3	22.4	1104	27.6	30.28	69.72	60-80	
4	11.2	805	20.13	50.41	49.59	40-60	
5	4.75	712	17.8	68.21	31.79	25-40	
6	2.36	407	10.18	78.39	21.61	15-30	
7	0.06	304	7.6	85.99	14.01	(8-22)	
8	0.075	443	11.08	97.07	2.93	0-5	

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Test Report
Aggregate Gradation

Project Name	Improvements to roads and drains at Kogilu Layout at Ward No.05.
Client	Road Infrastructure, Project Division Yalahanka
Lab No	MCTPL/BBMP/Project YNK/PMC/2017-2018/QR/04
Mix Type	Wet Mix Macadam
Contractor	M/s KRIDL
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Wet Mix Plant
Material	Coarse Aggregates
Sample No	4
Date	18-May-2018

Weight of Sample: 4000 gms

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	53	0	0	0	100	100	Gradation satisfies the MORT&H Specification for Wet Mix macadam
2	45	108.5	2.71	2.71	97.29	95-100	
3	22.4	1105.5	27.64	30.35	69.65	60-80	
4	11.2	806.5	20.16	50.51	49.49	40-60	
5	4.75	713.5	17.84	68.35	31.65	25-40	
6	2.36	408.5	10.21	78.56	21.44	15-30	
7	0.06	305.5	7.64	86.2	13.8	(8-22)	
8	0.075	550	13.75	99.95	0.05	0-5	

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Test Report
Aggregate Gradation

Project Name	Improvements to roads and drains at Kogilu Layout at Ward No.05.
Client	Road Infrastructure, Project Division Yalahanka
Job No	MCTPL/BBMP/Project YNK/PMC/2017-2018/QR/04
Mix Type	Wet Mix Macadam
Contractor	M/s KRIDL
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Wet Mix Plant
Material	Coarse Aggregates
Sample No	5
Date	18-May-2018

Weight of Sample: 4000 gms

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	53	0	0	0	100	100	Gradation satisfies the MORT&H Specification for Wet Mix macadam
2	45	110	2.75	2.75	97.25	95-100	
3	22.4	1107	27.68	30.43	69.57	60-80	
4	11.2	808	20.2	50.63	49.37	40-60	
5	4.75	715	17.88	68.51	31.49	25-40	
6	2.36	410	10.25	78.76	21.24	15-30	
7	0.06	307	7.68	86.44	13.56	(8-22)	
8	0.075	400	10	96.44	3.56	0-5	

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Test Report

Liquid and Plastic Limit by Cone Apparatus

	Improvements to roads and drains at Kogilu Layout at Ward No.05.
	Road Infrastructure, Project Division Yalahanka
	MCTPL/BBMP/Project YNK/PMC/2017-2018/QR/04
	Wet Mix Macadam
	M/s KRIDL
	Specification for Road & Bridge Works, MORT&H, Rev. V.
	Wet Mix Plant
	Coarse Aggregates
	1
	18-May-2018

	Description	Unit	Liquid Limit	Plastic Limit
	Penetration	mm	Non Plastic	Non Plastic
	Container No	no		
	Weight of container,(A)	gm		
	Weight of container + wet s	gm		
	Weight of container + dry s	gm		
	Weight of water, D=(B - C	gm		
	Weight of dry soil, E=(C - A	gm		
	Water Content, D/E x 100	gm		

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For Mecadez Core Technologies Private Limited

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Test Report

Liquid and Plastic Limit by Cone Apparatus

	Improvements to roads and drains at Kogilu Layout at Ward No.05.
	Road Infrastructure, Project Division Yalahanka
	MCTPL/BBMP/Project YNK/PMC/2017-2018/QR/04
	Wet Mix Macadam
	M/s KRIDL
	Specification for Road & Bridge Works, MORT&H, Rev. V.
	Wet Mix Plant
	Course Aggregates
	2
	19-May-2018

Description	Unit	Liquid Limit	Plastic Limit
Penetration	mm	Non Plastic	Non Plastic
Container No	no		
Weight of container (A)	gm		
Weight of container + wet soil, (B)	gm		
Weight of container + dry soil, (C)	gm		
Weight of water, D=(B - C)	gm		
W	gm		
100/W	gm		

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Test Report

Liquid and Plastic Limit by Cone Apparatus

	Improvements to roads and drains at Kogilu Layout at Ward No.05.
	Road Infrastructure, Project Division Yalahanka
	MCTPL/BBMP/Project YNK/PMC/2017-2018/QR/04
	Wet Mix Macadam
	M/s KRIDL
	Specification for Road & Bridge Works, MORT&H, Rev. V.
	Wet Mix Plant
	Coarse Aggregates
	3
	18-May-2018

	Description	Unit	Liquid Limit	Plastic Limit
	Penetration	mm	Non Plastic	Non Plastic
	Container No	no		
	Weight of container,(A)	gm		
	Weight of container + wet s	gm		
	Weight of container + dry s	gm		
	Weight of water, D=(B - C	gm		
	Weight of dry soil, E=(C - A	gm		
	Water Content, D/E x 100	gm		

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Test Report

Liquid and Plastic Limit by Cone Apparatus

	Improvements to roads and drains at Kogilu Layout at Ward No.05.
	Road Infrastructure, Project Division Yalahanka
	MCTPL/BBMP/Project YNK/PMC/2017-2018/QR/04
	Wet Mix Macadam
	M/s KRIDL
	Specification for Road & Bridge Works, MORT&H, Rev. V.
	Wet Mix Plant
	Coarse Aggregates
	4
	18-May-2018

	Description	Unit	Liquid Limit	Plastic Limit
	Penetration	mm	Non Plastic	Non Plastic
	Container No	no		
	Weight of container,(A)	gm		
	Weight of container + wet s	gm		
	Weight of container + dry s	gm		
	Weight of water, D=(B - C	gm		
	Weight of dry soil, E=(C - A	gm		
	Water Content, D/E x 100	gm		

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PROJECT MANAGEMENT & CONSULTANCY SERVICE

Test Report

Liquid and Plastic Limit by Cone Apparatus

	Improvements to roads and drains at Kogilu Layout at Ward No.05.
	Road Infrastructure, Project Division Yalahanka
	MCTPL/BBMP/Project YNK/PMC/2017-2018/QR/04
	Wet Mix Macadam
	M/s KRIDL
	Specification for Road & Bridge Works, MORT&H, Rev. V.
	Wet Mix Plant
	Coarse Aggregates
	5
	18-May-2018

Description	Unit	Liquid Limit	Plastic Limit
Penetration	mm	Non Plastic	Non Plastic
Container No	no		
Weight of container,(A)	gm		
Weight of container + wet s	gm		
Weight of container + dry s	gm		
Weight of water, D=(B - C	gm		
Weight of dry soil, E=(C - A	gm		
Water Content, D/E x 100	gm		

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For Mecadez Core Technologies Private Limited

Test Report

Field Density Test by Sand Replacement Method

	Improvements to roads and drains at Kogilu Layout at Ward No.05.
	Road Infrastructure, Project Division Yalahanka
	BCC/TPC/BBMP/Project YNK/PMC/2017-2018/QR/04
	Wet Mix Macadam
	M/s GDCDL
	IS: 2720 (Part - 16) 1963 & Specification for Road & Bridge Works,
	Top
	Wet Mix Macadam
	1
	22-Mar-2018

	1
	2.24
	3.2
	1.392
	1195
	4320
	17000
	13175
	2630
	1889.37
	2.29
	1.59
	3.29
	2.21
	98.82

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For Mecadez Core Technologies Private Limited

Authorised Signatory

6000025

Test Report

Field Density Test by Sand Replacement Method

	Improvements to roads and drains at Kogilu Layout at Ward No.05.
	Road Infrastructure, Project Division Yalahanka
	MCTPL/BBMP/Project YNK/PMC/2017-2018/QR/04
	Wet Mix Macadam
	WMM GRADE
	IS: 2720 (Part - 16) 1963 & Specification for Road & Bridge Works,
	Top
	Wet Mix Macadam
	2
	22-May-2018

	2
	2.24
	3.20
	1.39
	1195.00
	4325.00
	17000.00
	13170.00
	2635.00
	1892.96
	2.28
	1.59
	3.30
	2.21
	98.74

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